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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,592	01/21/2004	Ian Humphrey	NGC-162/000388-280	4284
32295 7590 03/12/2008 PATTI, HEWITT & AREZINA LLC ONE NORTH LASALLE STREET 44TH FLOOR CHICAGO, IL 60602				
EXAMINER TURNER, SAMUEL A				
ART UNIT		PAPER NUMBER		
2877				
MAIL DATE		DELIVERY MODE		
03/12/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/761,592

**Applicant(s)**

HUMPHREY, IAN

**Examiner**

SAMUEL A. TURNER

**Art Unit**

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI-108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 101***

35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10, and 16 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

If a claimed process manipulates only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Gottschalk v. Benson*, 409 U.S. 63, 71 - 72, 175 USPQ 673, 676 (1972). Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process, see *M.P.E.P.* § 2106.02.

In practical terms, claims define nonstatutory processes if they consist solely of mathematical operations without some claimed practical application (i.e., executing a “mathematical algorithm”) or simply manipulate abstract ideas, e.g., a bid (*Schrader*, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (*Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application.

With regard to claims 1-10, and 16; these claims are directed to calculating one or more performance parameters using a closed loop transfer function which is based on at least one characteristic of a fiber gyro optical component and at least one characteristic of a fiber gyro electrical component. There are no process steps that are directed to "some claimed practical application". To provide a practical application the claimed process must: include a physical transformation; or produce a useful, concrete, and tangible result.

Claim 6 uses one or more determined desired values of one or more determined physical parameters to design a fiber optic gyroscope. There is no physical transformation. While the gyro design produced may be useful, the design remains an abstract concept. There is no concrete and tangible result, no gyro is actually produced.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, and 14-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nouredin et al(IEEE-1999).

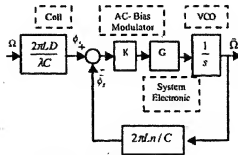


Figure 2. The FOG as a closed loop

Applicant has amended claims 1 and 11 with the limitation “wherein one of the one or more performance parameters is a closed-loop bandwidth of the fiber optic gyroscope”. Claim 16 has been added to define the closed-loop bandwidth.

Claims 1 and 11, as amended, provide the limitation of computing one or more performance parameters of a fiber optic gyroscope. The wherein clause specifically defines one of the performance parameters as the closed-loop bandwidth. However, the claims are not directed to computing the closed-loop bandwidth of the fiber optic gyroscope. The claim is still directed to computing one or more performance parameters. The closed-loop bandwidth may be one of the performance parameters calculated, but the claim does not specifically claim that the one or more performance parameters actually calculated must include the closed-loop bandwidth.

The scope of claims 1 and 11 has been broadened such that Nouredin et al now meets all of the claimed limitations, see the non-final rejection dated 11 September 2007 in regard to how Nouredin et al reads on the limitation of claims

1-12, 14, and 15. Claim 16 merely limits the closed-loop bandwidth, but does not specify that the closed-loop bandwidth is the calculated performance parameter.

***Response to Arguments***

Applicant's arguments filed 10 December 2008 have been fully considered but they are not persuasive.

***Claim Rejections - 35 USC § 112, first paragraph***

Applicant's amendment has overcome the rejection of claims 1-12, 14, and 15 under 35 U.S.C. § 112, first paragraph.

Applicant's arguments with respect to claims 1-12, and 14-16 have been considered and are not persuasive. Applicant has interpreted claims 1 and 11 to limit the step of "calculating" to include calculating the closed-loop bandwidth. The actual claim language provides no such limitation.

***Relevant Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lin et al(IEEE,1994) teach the relationship between the closed-loop bandwidth the transfer function, see figures 4 and 5, and equation 22.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Turner whose phone number is 571-272-2432.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached on 571-272-2800 ext. 77.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Samuel A. Turner/  
Primary Examiner  
Art Unit 2877